

# Notice of Allowability

Application No.

09/942,586

Examiner

Phillip A. Johnston

Applicant(s)

HAGER, JAMES

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 9-19-2005.
2. ☒ The allowed claim(s) is/are 1-4 and 6-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 9-15-2005.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

***Detailed Action***

1. This Office Action is submitted in response to the amendment filed 9-19-2005, wherein claim 5 was previously cancelled and claim 1 has been amended. Claims 1-4, and 5-24 are pending.

2. The examiner agrees with applicants remarks filed 9-19-2005, particularly regarding amended claim 1, which now overcomes the prior art of record. As a result, the §102 and §103 rejections of the previous Office Action are withdrawn.

***Allowable Subject Matter***

3. Claims 1-4, and 6-24 are allowed

***Examiner's statement of reasons for allowance***

The following is an examiner's statement of reasons for allowance:

4. Claim 1 is allowed because prior art fails to show a method of analyzing ions to enhance the separation of groups of ions with different charge states, the method comprising:

(1) providing a stream of ions, wherein the stream of ions includes at least a first group of ions having a first charge state and a second group of ions having a second charge state and injecting at least a portion of the stream of ions into an ion processing section for an injection period;

(2) trapping at least some of the injected ions in the ion processing section in an axial direction of the ion processing section;

(3) thermalizing the trapped ions', and

(4) providing, in the ion processing section, an energy barrier having a barrier magnitude that is constant for at least a separation time period, wherein, during the separation time period:

(a) the energy barrier has a first effective barrier height with respect to ions in the first group, wherein the first effective barrier height is equal to the first charge state multiplied by the barrier magnitude, and wherein the first effective barrier height is less than the kinetic energy of the first group of ions; and

(b) the energy barrier has a second effective barrier height with respect to ions in the second group, wherein the second effective barrier height is equal to the second charge state multiplied by the barrier magnitude, and wherein the second effective barrier height is greater than the kinetic energy of the second group of ions,

thereby allowing ions in the first group to preferentially escape from the ion processing section.

5. Claims 2-4, and 6-24 are allowed by virtue of their dependency upon allowed claim 1.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**

6. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 6:30 am to 3:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor John Lee can be reached at (571) 272-2477. The fax phone number for the organization where the application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJ  
November 29, 2005

  
NIKITA WELLS  
PRIMARY EXAMINER

12/09/05